

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Robert M. Guidash

IMAGE SENSOR AND IMAGE
CAPTURE SYSTEM WITH
EXTENDED DYNAMIC RANGE

Serial No. US 10/654,313

Filed 03 September 2003

Group Art Unit: 2622

Examiner: Nguyen, Luong Trung

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Pre-Appeal Brief Request For Review

Sir:

Applicant requests a review of the final rejection in the above-identified application. No amendments are being filed with this request. The request is being filed with a Notice of Appeal.

This review is requested for the reasons stated on the attached pages.

Claims 1, 3-6, 8, 9, 11-14, and 16-18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Morris et al. (USPN 6,665,010; hereinafter "Morris"). Claims 2 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Bayer (USPN 3,971,065).

Independent claims 1 and 9 recite "color filter kernels having the same colors in a predetermined arrangement wherein the kernels are arranged in at least two different uniformly distributed sets." Morris discloses in one embodiment the formation of groups of pixels 113a, 113b, 113c, 113d based on the different colors sensed by the array. One group may be associated with a red pixel color and another group with a green pixel color (see col. 3, lines 37-41). The Examiner argues that a group of pixels with the same single pixel color teaches "a plurality of color filter kernels having the same colors in a predetermined arrangement." Applicant respectfully notes the word colors in claims 1 and 9 is plural. Therefore, claims 1 and 9 claim more than one color in a predetermined arrangement.

Applicant provides examples of such color filter kernels in figures 2a and 2b. The Bayer pattern includes an array of Bayer kernels, with each kernel comprising two green, one red, and one blue pixel. Kernels 40a and 40b in figure 2a illustrate one embodiment of a predetermined arrangement of color filter kernels (green, red, blue). Another embodiment of a predetermined arrangement of green, red, and blue color filters is shown in color filter kernels 60a and 60b in figures 2b.

In order for a reference to anticipate an invention, each and every element of the claimed invention must be found in a single reference. "The identical invention must be shown in as complete detail as is contained in the ... claim." MPEP § 2131. Applicant respectfully submits Morris does not teach "color filter kernels having the same colors in a predetermined arrangement wherein the kernels are arranged in at least two different uniformly distributed sets."

When evaluating a claim, the claim as a whole must be considered, and as such, every limitation in the claim must be considered. MPEP § 2106. Applicant's independent claims 1 and 9 recite "the color filter pattern forms a plurality of color filter kernels having the same colors in a predetermined arrangement wherein the kernels are arranged in at least two different uniformly distributed sets." Unlike Applicant's claimed invention, Morris teaches forming

groups of pixels with only one pixel color in each group. Therefore, for at least the following reason, Morris does not anticipate independent claims 1 and 9.

Independent claims 8 and 17 recite “a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array.” The Examiner argues Morris teaches this aspect of the claimed invention in figure 5 and in the description in lines 9-31 in column 7. Lines 9-31 in column 7 of Morris state:

Referring back to FIG. 5, to take a snapshot of an image during the normal mode, the pixel sensing units 118 accumulate energy over the respective integration intervals to electrically indicate intensities for the captured image. Next, the row decoder 121 begins retrieving the stored indications of these intensities from the pixel sensing units 118 by selectively, electrically selecting rows of the pixel sensing units 118. Once selected, the pixel sensing unit 118 transfers the indication of its intensity value to signal conditioning circuitry 126. A column decoder 122 may be used to select groups of the indications for each row. The signal conditioning circuitry 126 may, for example, filter noise from the indications and convert the indications into digital data before transferring the data to an output interface 128. The output interface 128 may include buffers for temporarily storing data and circuitry to interface the imager 140 to external circuitry (other components of a digital camera, for example). The image 140 might also include, for example, the control unit 129 which has circuitry such as state machines and timers to control the scanning and data flow through the chip 54 and control the durations of the integration intervals that are set by the time measurement circuits 130.

Nothing found in this description or any other description in Morris teaches “a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array.”

When evaluating a claim, the claim as a whole must be considered, and as such, every limitation in the claim must be considered. MPEP § 2106. Moreover, in order for a reference to anticipate an invention, each and every

element of the claimed invention must be found in a single reference. "The identical invention must be shown in as complete detail as is contained in the ... claim." MPEP § 2131. Applicant's independent claims 8 and 17 recite "a readout mechanism that provides a series of output signal values associated with a row sync signal with a number of data signal values corresponding to a number of pixels in a row or desired portion of a row; wherein the output signal values have signals that are generated from pixels within at least two physically separate rows within the array." Nothing found in Morris teaches this aspect of the claimed invention. Therefore, for at least the following reason, Morris does not anticipate independent claims 8 and 17.

"Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim." 37 CFR § 1.75. Claims 3-6 depend from and include all of the limitations of independent claim 1, claims 11-14 and 16 depend from and include all of the limitations of independent claim 9, and claim 18 depends from and includes all of the limitations of independent claim 17. For at least the reasons discussed above, Morris does not anticipate independent claims 1, 9, and 17. Accordingly, dependent claims 3-6, 11-14, 16, and 18 are also not anticipated by Morris.

103(a) Rejection

The Manual of Patent Examining Procedure states the following in Section 2143:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

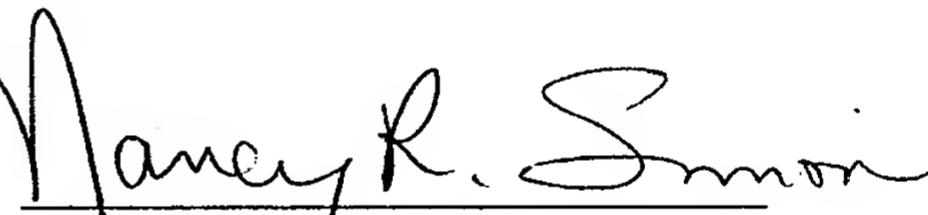
Applicant submits the combination of Morris and Bayer does not render Applicant's claims 2 and 10 obvious because the combination does not meet the three basic criteria. The argument below, however, will focus on the third criterion.

Morris and Bayer do not teach or suggest "color filter kernels having the same colors in a predetermined arrangement." Therefore, for at least the following reason, independent claims 1 and 9 are not obvious in view of Morris and Bayer.

Claim 2 depends from independent claim 1 and claim 10 depends from independent claim 9. "If an independent claim is not rendered obvious by prior art, then any claim depending from the independent claim is not obvious." In re Fine, 5 USPQ2d 1596 (Fed. Cir. 1988) (see also M.P.E.P. § 2143.03). Since the combination of Morris and Bayer does not render independent claims 1 and 9 obvious, dependent claims 2 and 10 are also not obvious in view of Morris and Bayer.

In light of the above remarks, Applicant respectfully requests the rejections under 35 U.S.C. § 102(e) and 103(a) be reversed and claims 1-6, 8-14, and 16-18 be allowed.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.